


3M Health Information Systems


# APR DRGs – An Overview Montana Medicaid



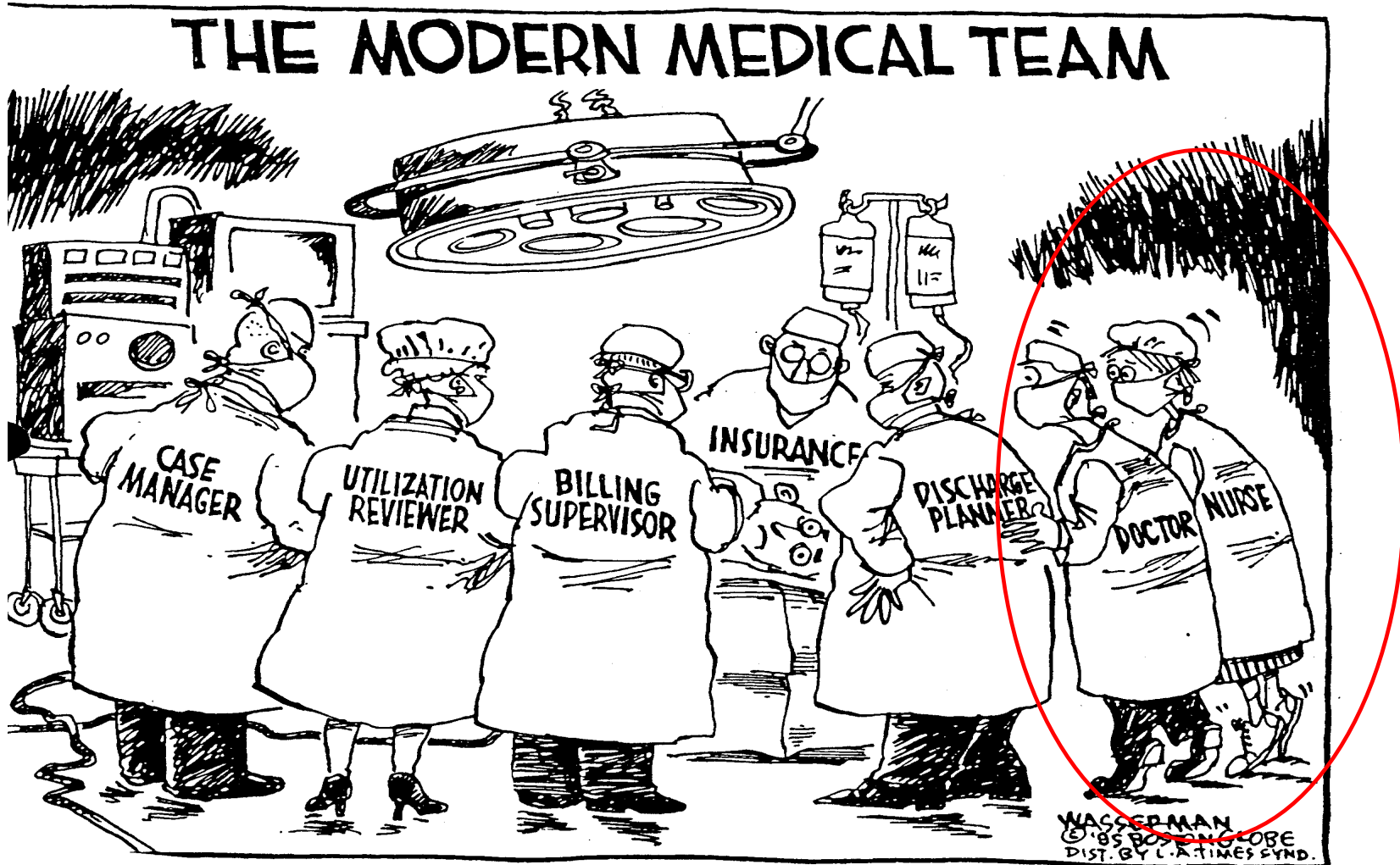
# Agenda

- 
- Who is using APR DRGs
  - What are APR DRGs
    - Logic
    - Examples
    - Uses of APR DRGs
  - Questions/ Discussion

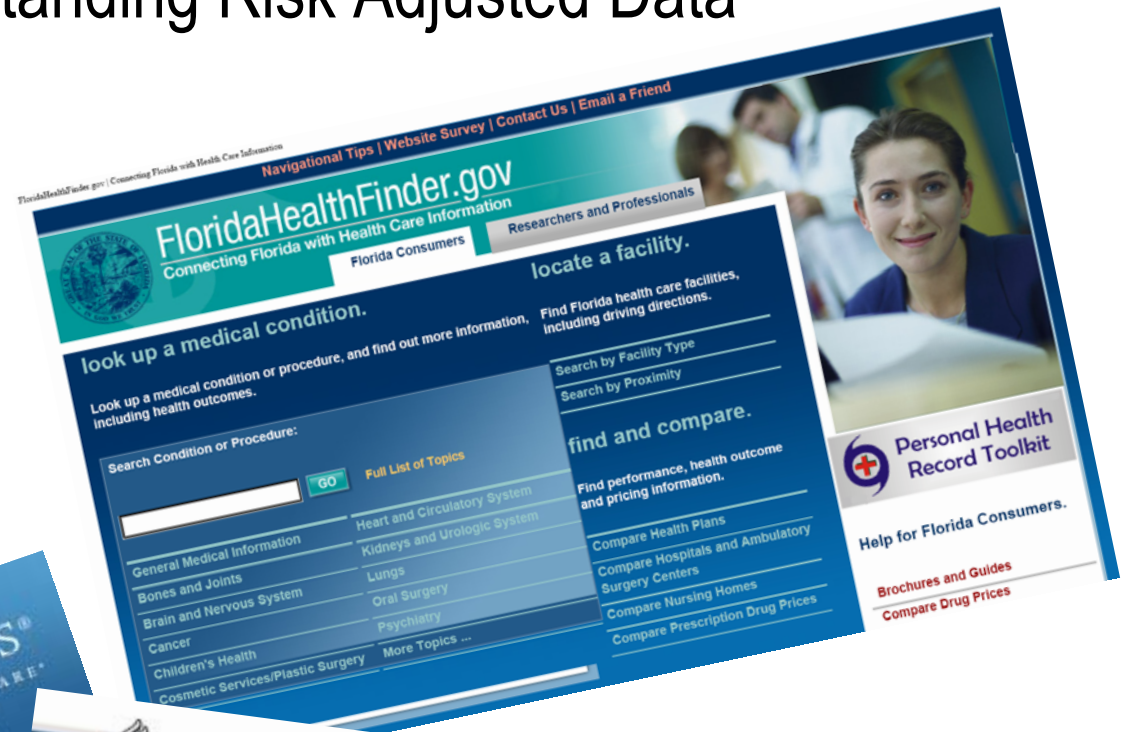
# Agenda

- 
- Who is using APR DRGs
  - What are APR DRGs
    - Logic
    - Examples
    - Uses of APR DRGs
  - Questions/ Discussion

## Vasserman's view




# Importance of Understanding Risk Adjusted Data



## 3M All Patient Refined DRG (3M™ APR DRG)

- More than 25 states use 3M APR DRGs for evaluating hospital performance
  - Ten states release results publicly
  - Poor performance on public reports can lead to loss of patient volume
- Widely used by private companies producing hospital comparisons
  - HealthGrades
  - U.S. World & News Report
- Used for severity adjustment in numerous quality assessment initiatives
  - AHRQ Quality Indicators
  - JCAHO hospital accreditation process
  - Premier/CMS pay for performance demonstration projects
  - NJ/CMS physician gain sharing demonstration project
- 3M APR DRGs are used for payment in the Maryland all payer system, BC of Iowa (Wellmark), Mississippi Medicaid (announced), Montana (October 2008) and Massachusetts (announced).
- More than one third of hospitals have the 3M APR DRG Software and most major hospital systems vendors integrated it into their systems
- 3M APR DRGs have four severity of illness (SOI) and risk of mortality (ROM) levels that facilitate linking payment and quality.

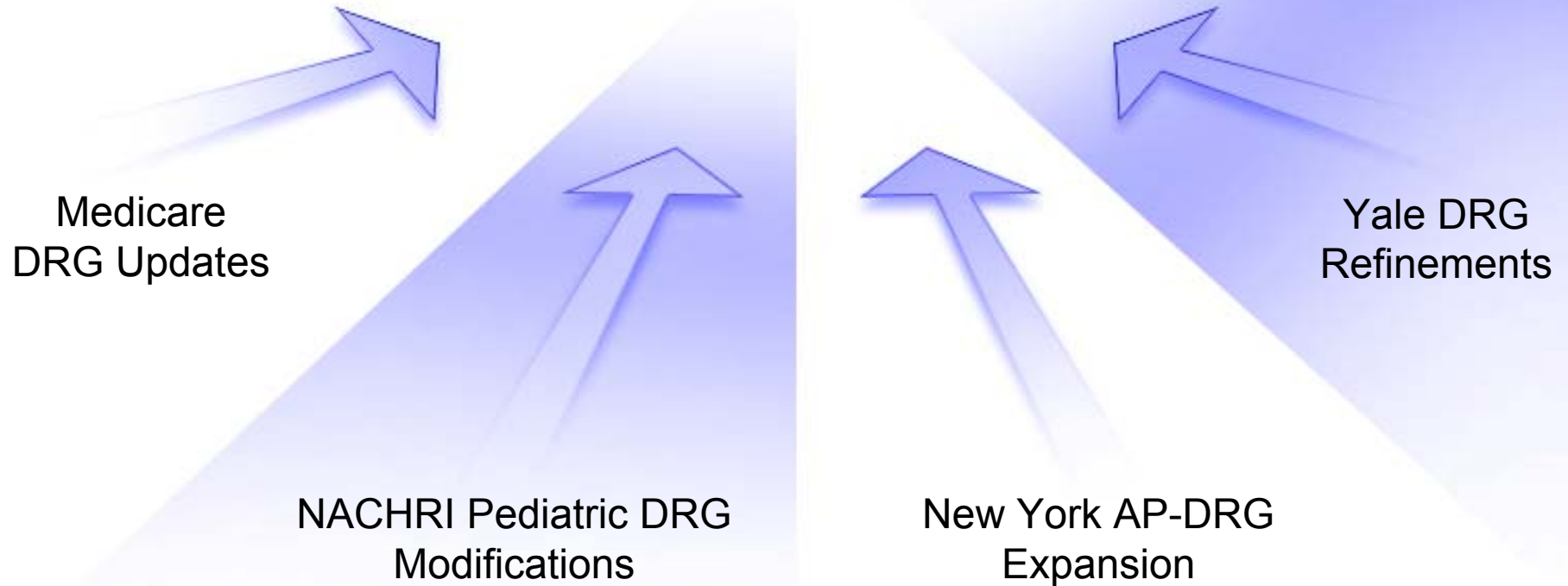
# Agenda

- 
- Who is using APR DRGs
  - What are APR DRGs
    - Logic
    - Examples
    - Uses of APR DRGs
  - Questions/ Discussion



# Initial Development of All Patient Refined DRGs

(3M™ APR DRGs)






## Underlying Principle of 3M™ APR DRGs

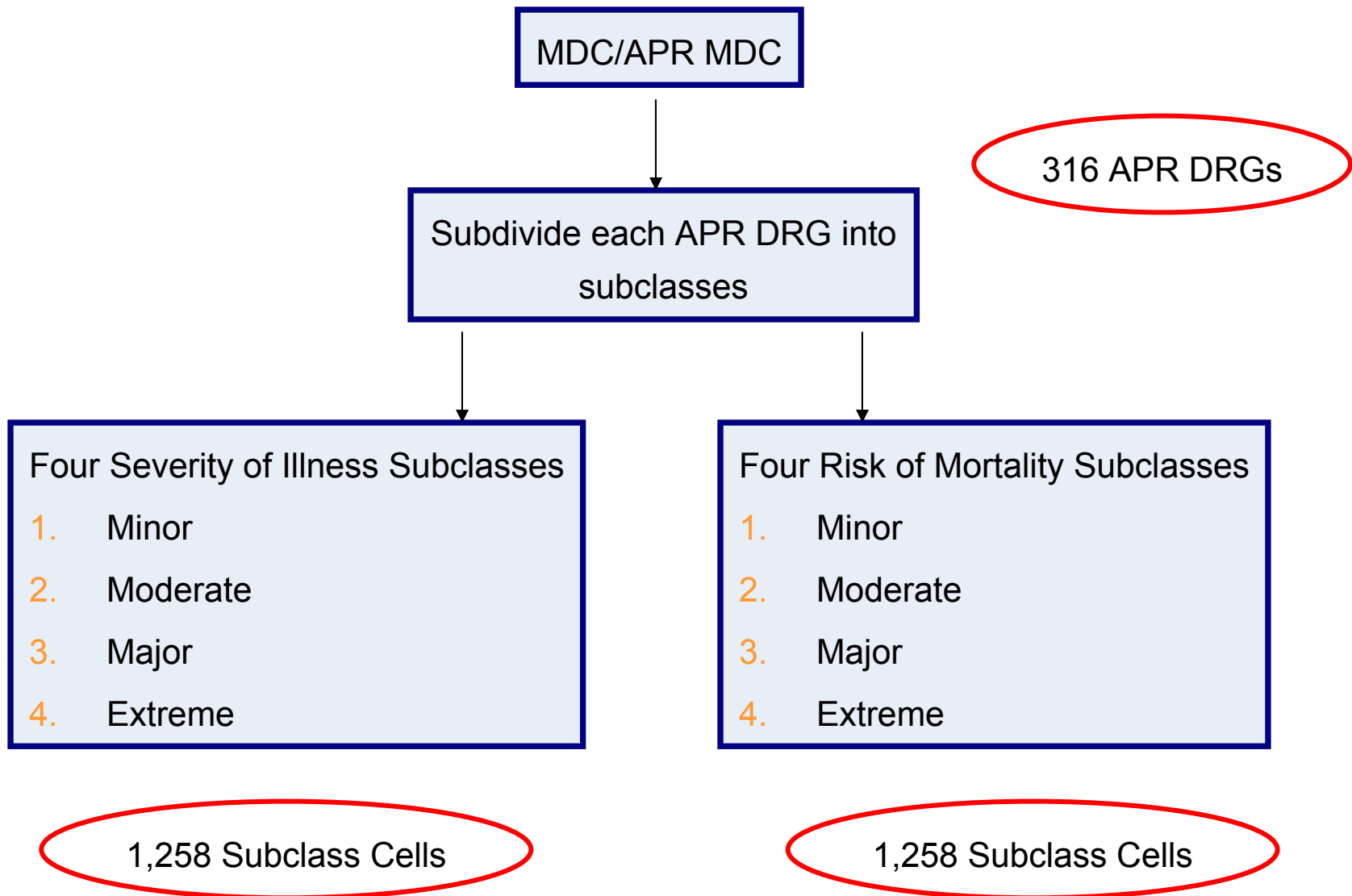
**Severity of illness and risk of mortality are dependent on the patient's underlying problem.**

**High Severity of Illness and Risk of Mortality are characterized by multiple serious diseases and the interaction among those diseases.**

## Definitions

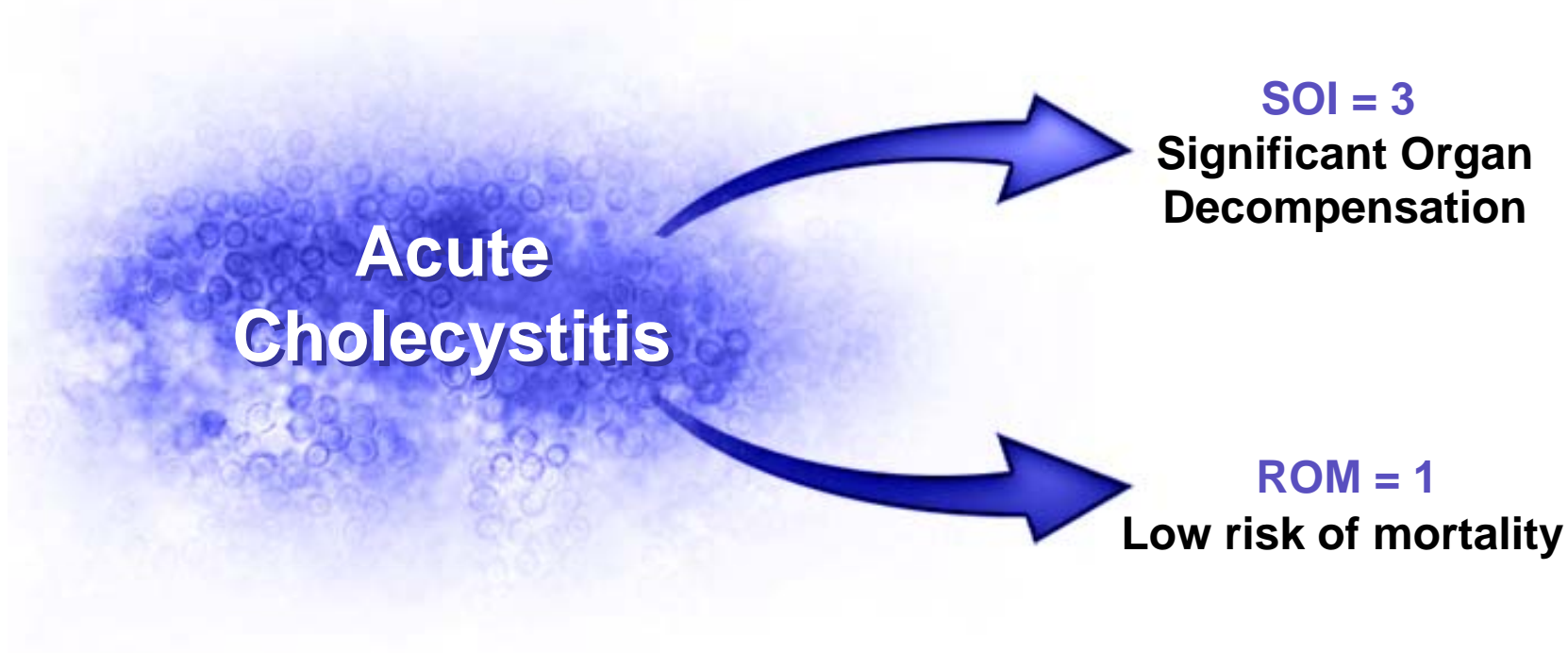
- 
- *Severity of Illness*: the extent of physiologic decompensation or organ system loss of function
  - *Risk of Mortality*: the likelihood of dying
  - *Resource Intensity*: the relative volume and types of diagnostic, therapeutic and bed services used in the management of a particular disease

# Summary of 3M™ APR DRGs



## SOI and ROM are Independent

The severity of illness and risk of mortality subclass are calculated separately and may be different from each other.



## Examples of 3M™ APR DRG Subclasses

	Severity of Illness	Secondary Diagnosis-Diabetes Mellitus
1	Minor	Uncomplicated Diabetes
2	Moderate	Diabetes w Renal Manifestation
3	Major	Diabetes w Ketoacidosis
4	Extreme	Diabetes w Hyperosmolar Coma

	Risk of Mortality	Secondary Diagnosis-Cardiac Dysrhythmias
1	Minor	Premature Beats
2	Moderate	Sinoatrial Node Dysfunction
3	Major	Paroxysmal Ventricular Tachycardia
4	Extreme	Ventricular Fibrillation

## Three phases to Determine SOI/ROM Subclass


- **Phase 1: Determine the SOI/ROM level of each secondary diagnosis (SDX)**
  - First Assign SOI level and ROM level to each SDX
    - “level” refers to the categorization of a sdx
    - “subclass” refers to one of the subdivisions of an APR-DRG
  - Each SDX are assigned to one of four distinct SOI levels and one of four distinct ROM levels; 1 minor, 2 moderate, 3 major, 4 extreme
  - SOI and ROM assignment take into account the interaction among SDX, age, Principal Diagnosis, and certain OR and non-OR procedures

## Three phases to Determine SOI/ROM Subclass

- Phase 2: Phase 2 Determine the base SOI/ROM subclass of the patient based on all the Secondary Diagnoses
  - Eliminate secondary diagnoses that are associated with other secondary diagnoses
  - Set base Severity Subclass of patient to the highest severity level of any secondary diagnosis
  - Reduce the Subclass of patients in Level 3 or 4 to next lower subclass if no multiple secondary diagnoses at a high severity of illness level exist



## Three phases to Determine SOI/ROM Subclass

- 
- Phase 3: Phase 3 Determine the final SOI/ROM subclass of the patient
    - Evaluate interaction of:
      - Multiple diagnoses
      - OR and non-OR procedures
      - Pairs of OR procedures
      - Impact of age on principal diagnosis
    - Establish a minimum severity of illness subclass based on the presence of specific combinations of categories of secondary diagnoses
    - Compute the final severity of illness subclass based on the Phase II base subclass and the modifications from Phase III.

# Do Severity and Risk Adjustment Really Make a Difference?

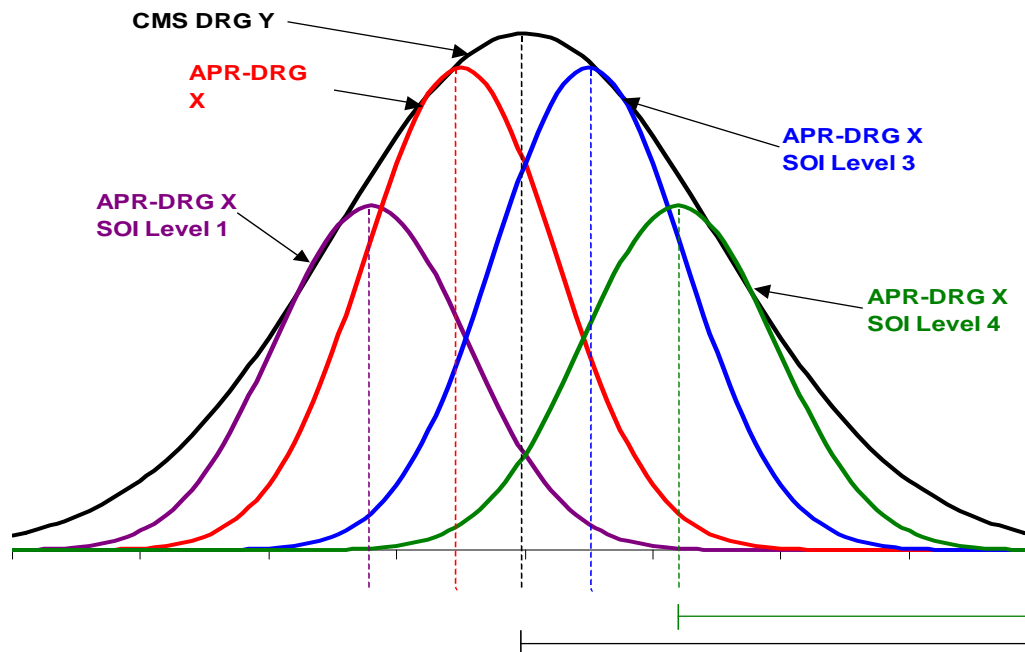
PRINCIPAL DIAGNOSIS: Single Live Newborn			
	CASE 1	CASE 2	CASE 3
Secondary Diagnosis	Extreme Immaturity, 1250-1499 Grams Newborn 33-34 weeks gestation	Extreme Immaturity, 1250-1499 Grams Newborn 33-34 weeks gestation Meconium Aspiration Respiratory Failure	Extreme Immaturity, 1250-1499 Grams Newborn 33-34 weeks gestation Meconium Aspiration Respiratory Failure Hypoplastic Left Heart Syndrome
MS DRG	790 Extreme Immaturity, Neonate	790 Extreme Immaturity, Neonate	790 Extreme Immaturity, Neonate
3M APR DRG	608 Neonate 1250-1499 g w other significant condition	607 Neonate 1250-1499 g w Major Anomaly	607 Neonate 1250-1499 g w Major Anomaly
3M APR DRG SOI	1 Minor	3 Major	4 Severe
3M APR DRG ROM	1 Minor	2 Moderate	3 Major
Medicare Relative Wt.	4.6990	4.6990	4.6990
3M APR DRG Rel Wt.	2.5792	6.5282	10.4192

# Do Severity and Risk Adjustment Really Make a Difference?

PRINCIPAL DIAGNOSIS: Schizophrenia			
	CASE 1	CASE 2	CASE 3
Secondary Diagnosis	Depression	Depression Suicidal Ideation	Depression Suicidal Ideation Pulmonary Embolism
MS DRG	885 Psychoses	885 Psychoses	885 Psychoses
3M APR DRG	750 Schizophrenia	750 Schizophrenia	750 Schizophrenia
3M APR DRG SOI	2 Moderate	3 Major	4 Severe
3M APR DRG ROM	1 Minor	1 Minor	3 Major
Medicare Relative Wt.	.7783	.7783	.7783
3M APR DRG Rel Wt.	.7925	.9876	1.9935

# Conceptual Illustration of Cost Variation Comparisons

## Four Severity of Illness Subclasses Compared to One CMS DRG



APR DRGs are much better than CMS DRGs in making a payment that more closely resembles the resources needed to treat that case. Their cost distributions match much more closely to the payment.

## 3M APR DRG Relative Weights

- Ability to calculate a severity adjusted case mix index across the APR DRG Classification System for a defined group of patients (e.g., physician, service line, hospital)
  - Allows relative comparison of the overall severity of one group with another
- Foundation for incorporating the APR DRG Classification System as a payment/reimbursement system
  - By reflecting the relative resources required for treatment within each APR-DRG and severity subclass, relative weights allow for payment adjustment based on the severity level of the patient
- SOI and ROM can not be used to compare across APR DRGs
  - SOI levels are specific to that APR DRG only
    - Can't use the subclass levels and average to create case mix or compare DRGs
    - An SOI level of 2 for COPD is not the same as a level 2 for Appendicitis
  - Use the relative weight to do severity adjustment across APR DRGs

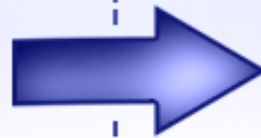
# Severity Adjusted Case Mix Index



## Administrative Interpretation

CMI with CMS DRG Weights

- Resource Intensity
- Cost




## Clinical Interpretation

Severity Adjusted CMI w/ 3M APR DRG Weights

- Severity of Illness
- Risk of Mortality
- Treatment Difficulty
- Prognosis
- Need for Intervention

## Complete and Accurate Documentation is Essential

- 
- Complete documentation will be important in assigning the most accurate SOI and ROM
    - Documentation to support assigning more specific codes
    - Capturing and coding all secondary diagnoses
    - An accurate SOI means an accurate reimbursement
  - Note: APR DRGs do not use a CC/MCC list. A condition will impact the APR DRG, SOI, and/or ROM depending on what other conditions are present, age, sex, etc.



# Who Uses 3M™ APR DRGs and Why?

	APR DRGs applied to...	Hospitals	Payers	State	Quality Initiatives	Consultants
Prospective Payment	-Control Costs, Track Payments -Account for SOI and resource consumption in payment	√	√	√	√	√
Pay for Performance	Payer, Physician, Hospital Negotiations	√	√	√	√	√
Managed Care	Managed Care contracting based upon SOI, ROM; Manage capitated payment	√	√	√	√	√
Consumer Pressure Public Reporting	Report modeling/ gap improvement prior to public report Drill down to SOI, ROM to identify root cause of issue	√	√	√	√	√
Clinical Improvement	Clinical Service Line analysis Physician peer analysis Quality assurance	√	√	√	√	√
Operational Improvement	Utilization of resources Continual Quality Improvement Process improvement/ re-engineering	√	√	√	√	√
Strategic Planning	Strategic Planning- short and long term Make, Buy, Partner Analysis	√	√	√	√	√

## How can 3M™ APR DRG output be used?

To stratify *all* patients in conjunction with other metrics:

- Looking at severity against cost, LOS
- Measuring severity to ensure patients receive the right type of care based on severity
- Designing clinical pathways in support of severity
- To assist in profiling physician performance
- To demonstrate the need for appropriate, collaborative, and comprehensive documentation

## How can 3M™ APR DRG output be used?

To target charts for audits:

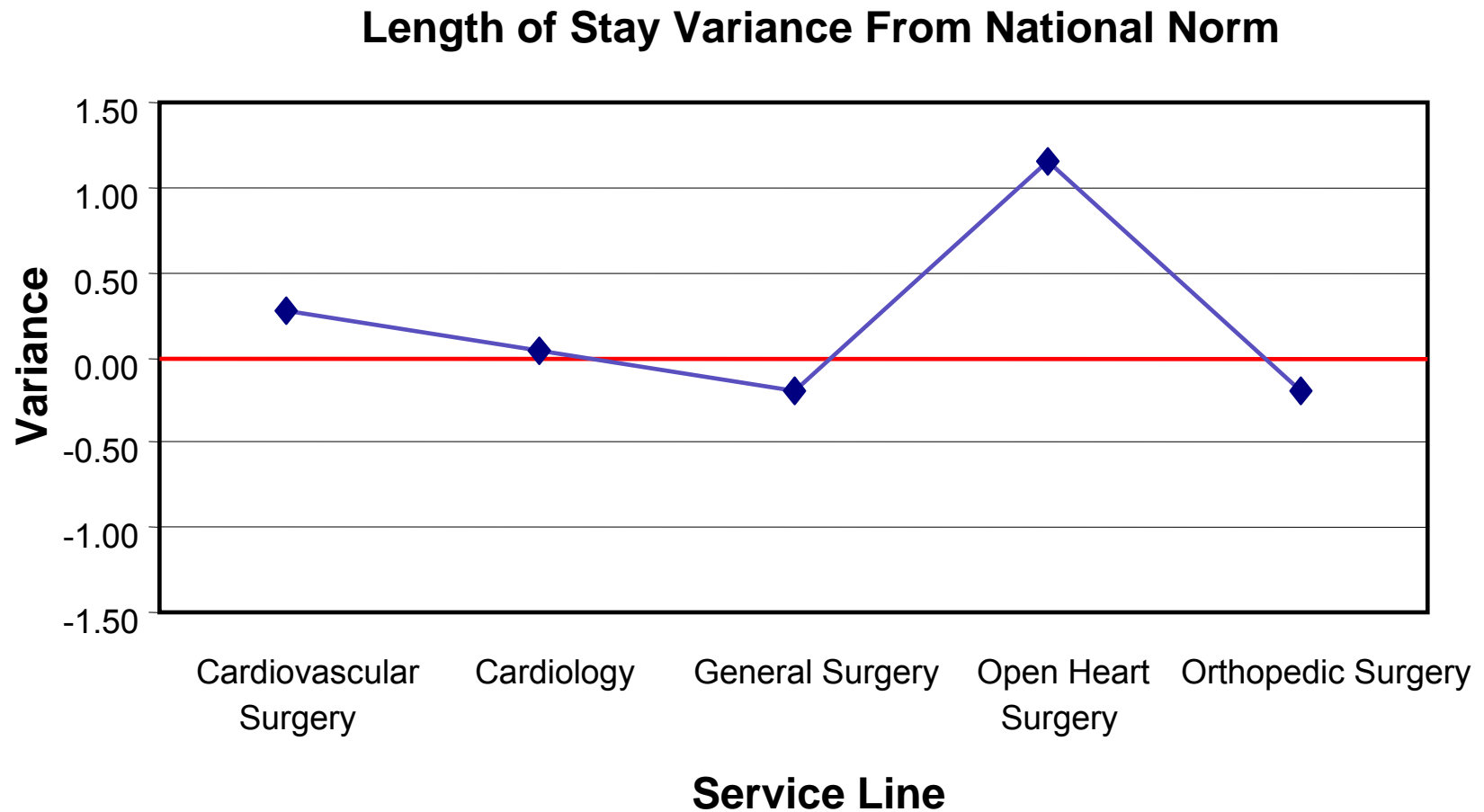
- Evaluate expired patients against less than expected ROM
- Identify cost outliers against severity to make sure documentation supports this
- To assist in quality reviews
- Prepare for public outcomes reporting

## How can 3M™ APR DRG output be used?

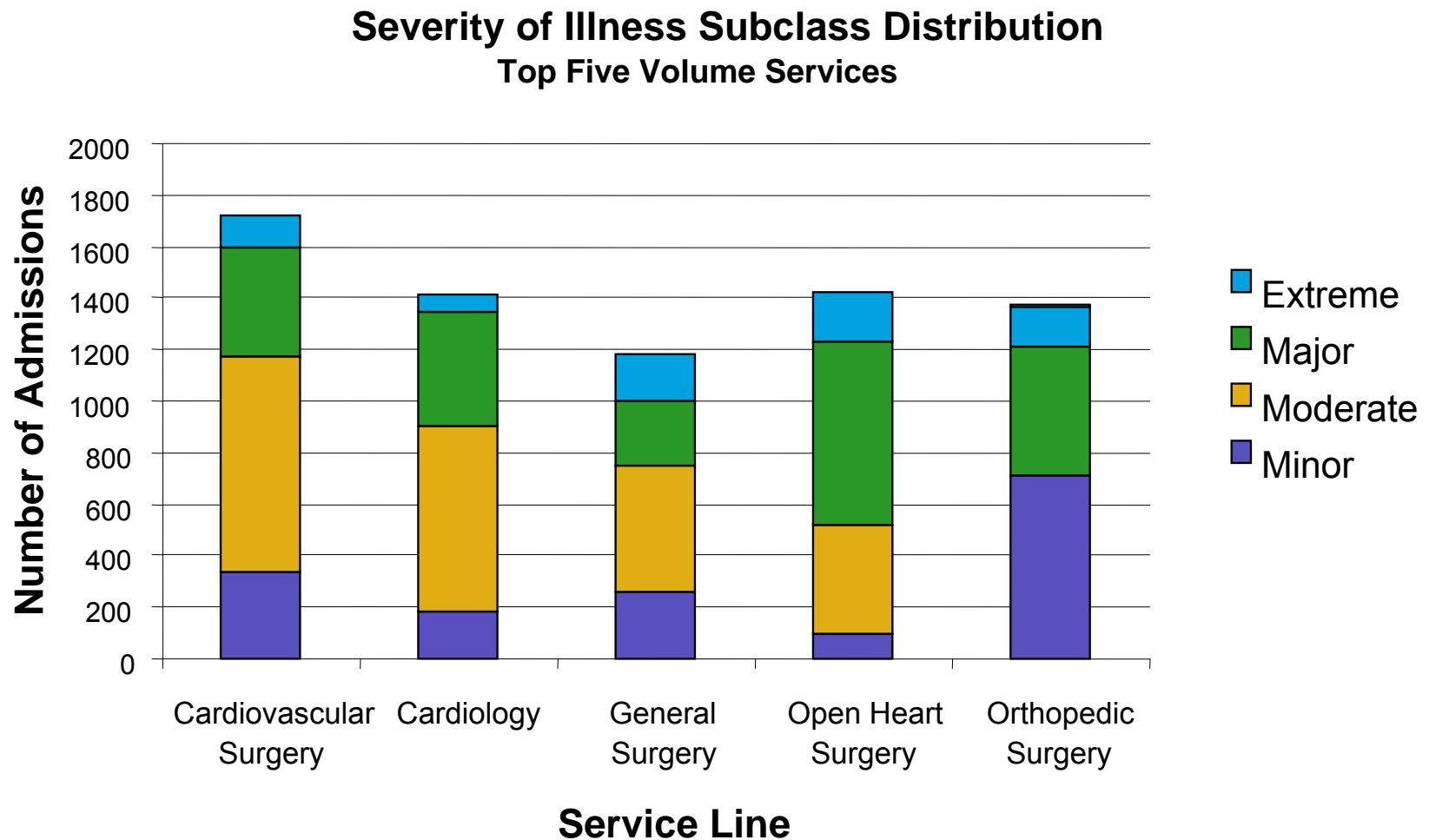
To assist in financial decision making and planning:

- Using the CMI to ensure fairness in reimbursement
- Assuring all patients are measured according to an accepted standard of severity
- Profiling physician performance for utilization appropriateness
- Profiling physician performance for inclusion in health care plans
- Objective comparisons of service line performance and/or hospitals within your hospital network

# Identify the Variance



# Examine Severity of Illness




## Risk Adjusted Case Mix Index

<u>Hospital</u>	<u>CMI</u>
A	1.1409
B	1.2986
C	1.7208
D	1.0328
E	1.5423
F	1.9216
G	1.3087
H	1.5290
I	1.0540
J	1.7378
K	1.5765
L	1.2478
M	0.9307
N	0.9731
O	1.1091
P	1.2440



# Agenda

- 
- Who is using APR DRGs
  - What are APR DRGs
    - Logic
    - Examples
    - Uses of APR DRGs
  - Questions/ Discussion
    - » Adrian Williams, RHIA
    - » 3M Product Marketing Manager
    - » [akwilliams1@mmm.com](mailto:akwilliams1@mmm.com)
    - » 801-265-4670